



Evaluation of "Miscellaneous"
Grafton St at Waverly St and at Cutler St
July 14, 2023

Petition: Petition of Demetra Edwards request the volume of locator tones on pedestrian signals at the intersection of Grafton St. and Waverly St. be increased and "Walk Signal is On" audible signal be installed at said location.

8t CC September 20, 2022

Petition of Demetra Edwards request the volume of locator tones on pedestrian signals at the intersection of Grafton St. and Cutler St. be increased and "Walk Signal is On" audible signal be installed at said location.

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Scheduled Committee Hearing: July 19, 2023 Traffic & Parking Committee, Item 9b&c

Prepared by: Todd M. Kirrane, Assistant Director

The petitioner is a certified orientation and mobility assistant with The Carroll Center for the Blind with a client who resides near the intersections. They are requesting changes to the accessible pedestrian signals at the intersections of Grafton Street at Waverly Street and Grafton Street at Cutler Street.

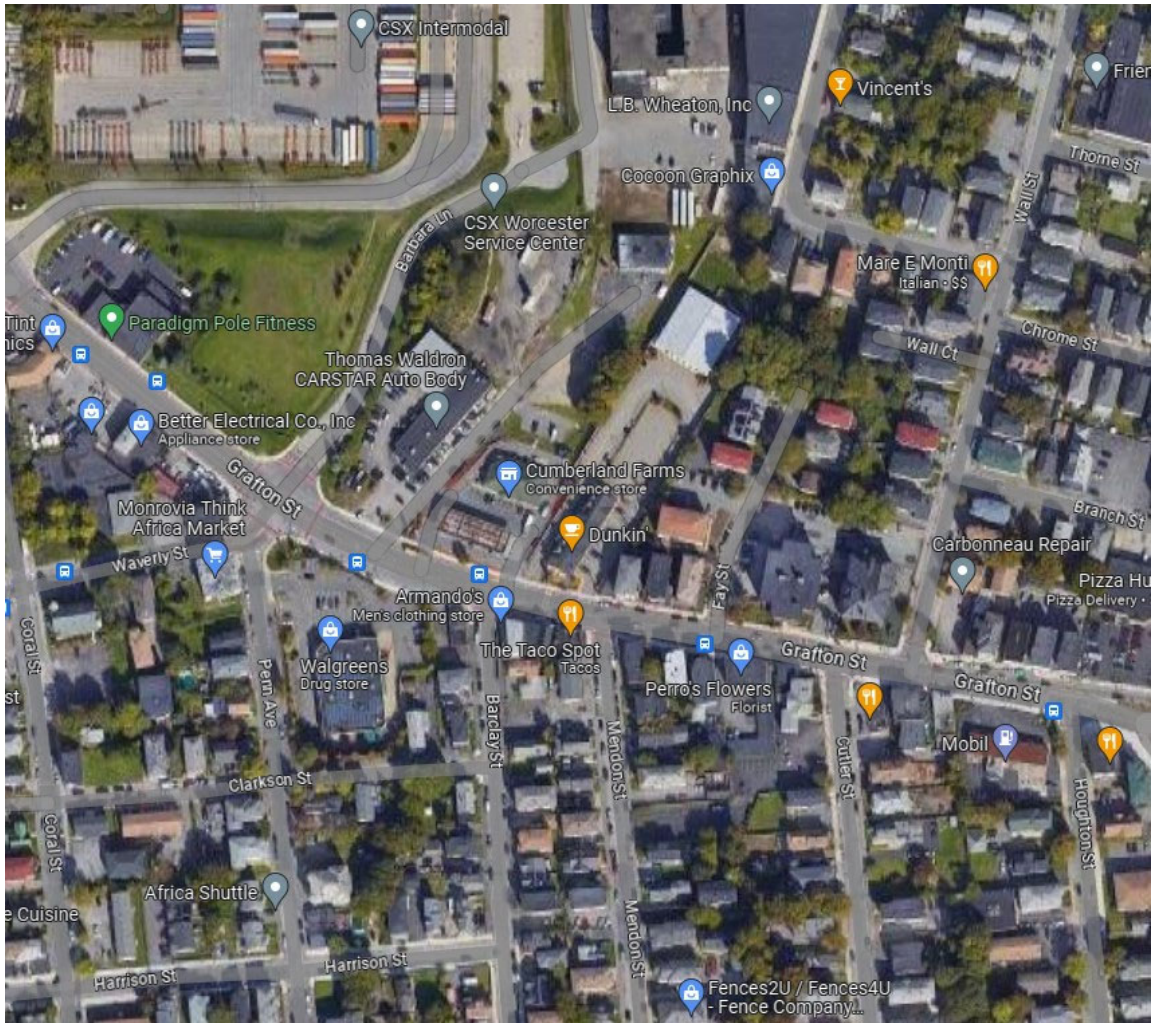


IMAGE 1: Aerial image of locations



IMAGE 2: Streetview of Grafton St at Waverly St



IMAGE 3: Streetview of Grafton St at Cutler St

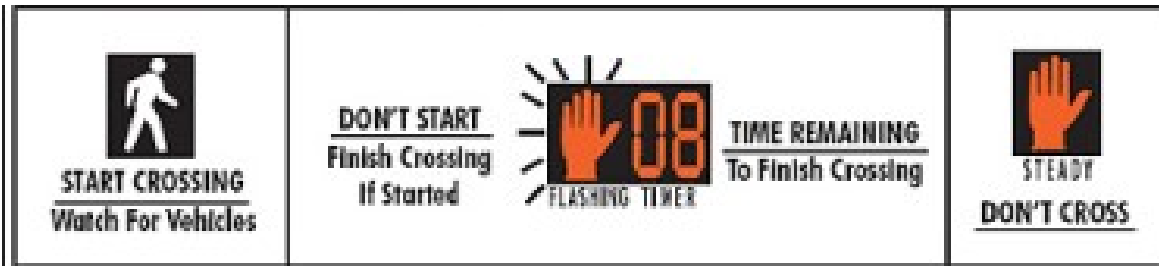
The two traffic signal systems were reconstructed within the last two years as part of the federally funded Grafton Street Improvement Project and were designed to meet the current federal and state standards for ADA access and operations. Each pedestrian crosswalk location at the site intersections is equipped with an ADA compliant wheelchair ramp as well as a pedestrian actuated Accessible Pedestrian Signal (APS) push button and count down timers.



APS pedestrian pushbuttons are an integrated device that communicates information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats (i.e., audible tones and vibrotactile surfaces) for pedestrians who are blind or have low vision. They provide key functions including:

1. Informing the vision impaired pedestrian of the existence of and location of the pushbutton through an audible locator tone that adjusts based on ambient noise levels

2. The direction of the crosswalk and location of the destination curb with the raised arrow on the button that points toward the crosswalk
3. The bounce back when the button is pushed
4. The audible announcement of “WAIT” message to let them know that the signal has not yet turned
5. Letting them know when to start crossing, beginning of the WALK interval, through either a rapid ticking sound or an audible message announcing “WALK LIGHT IS ON TO CROSS”



The pedestrian count down timers provide additional information to pedestrians including

1. when the pedestrian phase is on and they should cross street with the symbol of a green pedestrian walking
2. when the pedestrian phase is ending with a flashing red hand and countdown so the pedestrian can make an educated decision on whether they can make the crossing if standing on the opposite curb
3. when the pedestrian phase is off and the pedestrian should not cross with the visual of a red hand.

The addition of both of these devices at our intersections improves the safety and access for pedestrians, especially those with mobility limitations, and plays an important part in making Worcester a walkable community to achieve the policy goals of the Council approved Complete Streets Policy and the Green Worcester Sustainability and Resilience Strategic Plan.

With respects to the specific requests of the petitions:

- 1) Alter the volume of the audible locator tone for the push buttons:
 - a. The National Cooperative Highway Research Program has released guidance on the operations of APS signals and with respect to the locator tone they recommend that the tone be loud enough to hear from 6 to 12 feet on the sidewalk from the push button. Staff has completed an inspection of the intersections in question and agree with the petitioner that the audible locator tones are programmed too low and are not audible from the recommended distance.
- 2) Alter the walk indicator from the rapid ticking tone to the audible ‘WALK LIGHT IS ON TO CROSS’ message:
 - a. The operational characteristics are determined by the Manual on Uniform Traffic Control Devices (MUTCD), which all municipalities within Massachusetts are compelled to follow in accordance with MGL Chapter 85 Section 2. With respects

to the petitioner's request to alter the current programming of the APS push buttons when the walk light is on from the rapid ticking sound to the audible message – the MUTCD requires that:

“Where two accessible pedestrian signals are separated by a distance of at least 10 feet, the audible walk indication shall be a percussive tone. Where two accessible pedestrian signals on one corner are not separated by a distance of at least 10 feet, the audible walk indication shall be a speech walk message.”

Staff has reviewed the intersections in question and the push buttons are all located in excess of 10 feet in distance from each other so per the MUTCD they are required to be programmed with the tone and not the audible message.

Additionally, during the staff investigation, we noticed that one of the pedestrian crossing locations the APS push button was replaced with an older ADA bull dog button that does not have the advanced features of an APS button. This was mostly likely due to a failure of the APS button in question and what the DPW&P traffic maintenance division had in stock.

Recommendation: Based on the information provided above and that once these signals are installed by a vote of the City Council the maintenance and operations is under the purview of the City Manager and staff, staff recommends the following

- Vote to FILE this request while DTM staff initiates a work order with our Traffic Signal contractor to adjust the volumes of the APS push button signals to recommended levels and replaces the missing APS signal.